What is claimed is:

1. A laminate type thin-film solar cell comprising:

a substrate;

a first photoelectric conversion unit formed on the substrate, the first photoelectric conversion unit comprising a first semiconductor lamination portion made of a semiconductor having a first band gap energy and a first pair of electrodes which are formed on at least a part of each of both surfaces of the first semiconductor lamination portion and connected electrically thereto; and

a second photoelectric conversion unit formed on the first photoelectric conversion unit, the second photoelectric conversion unit comprising a second semiconductor lamination portion made of a semiconductor having a second band gap energy and a second pair of electrodes which are formed on at least a part of each of both surfaces of the second semiconductor lamination portion and connected electrically thereto.

2. The laminate type thin-film solar cell according to claim 1, wherein one of each of the first and second pairs of electrodes is formed on a part of a semiconductor layer of each of the first and second photoelectric conversion units, the part being exposed by the level difference which is formed by sticking the first and second photoelectric conversion units with a displacement.

3. The laminate type thin-film solar cell according to claim 1, wherein the first and second pairs of

electrodes are formed on surroundings of both surfaces of each of the first and second photoelectric conversion units, and the first and second photoelectric conversion units are stuck, by putting one on the other, at faced parts of one of the first pair of electrodes and one of the second pair of electrodes so as to be connected electrically in series.

4. The laminate type thin-film solar cell according to claim 1, further comprising:

a third photoelectric conversion unit formed on a surface of the second photoelectric conversion unit, the third photoelectric conversion unit comprising a third semiconductor lamination portion made of a semiconductor having a third band gap energy and a third pair of electrodes which are formed on at least a part of each of both surfaces of the third semiconductor lamination portion and connected electrically thereto; and

a forth photoelectric conversion unit formed on a surface of the third photoelectric conversion unit, the forth photoelectric conversion unit comprising a forth semiconductor lamination portion made of a semiconductor having a forth band gap energy and a forth pair of electrodes formed on at least a part of each of both surfaces of the forth semiconductor lamination portion and connected electrically thereto.

5. The laminate type thin-film solar cell according to claim 3,

wherein the substrate is formed of a semiconductor

which composes the first photoelectric conversion unit, and one or more photoelectric conversion units including the second photoelectric conversion unit are stuck on the first photoelectric conversion unit so as to be connected in series; and

wherein an electrode formed on a back surface of the substrate and an electrode formed on a top surface of the photoelectric conversion units stuck are employed as electrode terminals.

6. The laminate type thin-film solar cell according to claim 3, wherein two or more photoelectric conversion units including the first and second photoelectric conversion units are stuck in a series connection, on a surface of an insulating substrate, or an insulating film which is formed on a surface of a semiconductor substrate or a conductive substrate, and a terminal of one electrode of the first photoelectric conversion unit and a terminal of an electrode formed on a top surface of the stuck photoelectric conversion units are formed on a surface of the insulating substrate or the insulating film.

7. A method for manufacturing a laminate type thin-film solar cell comprising the steps of:

(a) forming a second semiconductor lamination portion, which composes a second photoelectric conversion unit, through an easily-oxidized compound layer with matching in crystal structure to a substrate for growing semiconductor layers on the substrate;

(b) sticking only the second semiconductor lamination portion on a temporary substrate, by sticking a top face of the second semiconductor lamination portion on a temporary substrate and by removing the substrate for growing by dissolving an oxidized layer formed by oxidizing the easily-oxidized compound layer;

(c) forming a first semiconductor lamination portion, which composes the first photoelectric conversion unit through an easily-oxidized compound layer with matching in crystal structure to a substrate for growing semiconductor layers on the substrate;

(d) sticking only the first semiconductor lamination portion left, by sticking the first semiconductor lamination portion on a surface of the second semiconductor lamination portion stuck on the temporary substrate, so as to expose a part of the second semiconductor lamination portion by displacement and by removing the substrate for growing by dissolving an oxidized layer formed by oxidizing the easily-oxidized compound layer;

(e) forming an electrode on the exposed surface of at least the second semiconductor lamination portion by depositing a metal film from a top surface side of the first semiconductor lamination portion;

(f) removing the temporary substrate after sticking a real substrate on a surface of the first semiconductor lamination portion; and

(g) forming an electrode on an exposed surface, which surface is a contacted surface of the first semiconductor lamination portion contacted with the second semiconductor lamination portion, by depositing a metal film from a surface side of the second semiconductor lamination portion.

8. A method for manufacturing a laminate type thin-film solar cell comprising the steps of:

(a) forming a first semiconductor lamination portion, which composes a first photoelectric conversion unit, through an easily-oxidized compound layer with matching in crystal structure to a substrate for growing semiconductor layers on the substrate, and forming one of the first pair of electrodes on a part of the first semiconductor lamination portion;

(b) sticking only the first semiconductor lamination portion on a real substrate, by sticking a top face of the first semiconductor lamination portion on the real substrate such that an electrode formed on the real substrate connects to the one of the first pair of electrodes of the first photoelectric conversion unit, and by removing the substrate for growing by dissolving an oxidized layer formed by oxidizing the easily-oxidized compound layer;

(c) forming a second semiconductor lamination portion, which composes a second photoelectric conversion unit through an easily-oxidized compound layer with

matching in crystal structure to a substrate for growing semiconductor layers on the substrate, and forming one of a second pair of electrodes on a part of a surface of the second semiconductor lamination portion;

(d) sticking only the second semiconductor lamination portion, by forming another electrode of the first pair of electrodes on a part of an exposed surface of the first semiconductor lamination portion stuck on the real substrate, by sticking a top surface of the second semiconductor lamination portion such that the another electrode of the first pair of electrodes connects to the one of the second pair of electrodes of the second semiconductor lamination portion, and by removing the substrate for growing by dissolving an oxidized layer formed by oxidizing the easily-oxidized compound layer; and

(e) forming another electrode of the second pair of electrodes on a part of an exposed surface of the second semiconductor lamination portion on the real substrate.

9. The method for manufacturing the laminate type thin-film solar cell according to claim 7 or 8, wherein the easily-oxidized compound layer is made of a material represented by $Al_uGa_{1-u}As$ ($0.5 \leqq u \leqq 1$) or $Al_vIn_{1-v}As$ ($0.5 \leqq v \leqq 1$).